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NOTICE OF ALLOWANCE AND ISSUE FEE DUE

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APPLICATION NO.	FILING DATE	TOTAL CLAIMS	EXAMINER AND GROUP ART UNIT	DATE MAILED
09/496,889	02/02/00	017	GARTENBERG, E	3746 06/08/01
First Named Applicant	FALCE, 35 USC 154(b) term ext. = 0 Days.			
TITLE OF INVENTION	ION THRUSTER HAVING A HOLLOW CATHODE ASSEMBLY WITH AN ENCAPSULATED HEATER, AND ITS FABRICATION			

ATTY'S DOCKET NO.	CLASS-SUBCLASS	BATCH NO.	APPLN. TYPE	SMALL ENTITY	FEE DUE	DATE DUE
2 PD-990111	060-202.000	H45	UTILITY	NO	\$1240.00	09/10/01

THE APPLICATION IDENTIFIED ABOVE HAS BEEN EXAMINED AND IS ALLOWED FOR ISSUANCE AS A PATENT. PROSECUTION ON THE MERITS IS CLOSED.

THE ISSUE FEE MUST BE PAID WITHIN THREE MONTHS FROM THE MAILING DATE OF THIS NOTICE OR THIS APPLICATION SHALL BE REGARDED AS ABANDONED. THIS STATUTORY PERIOD CANNOT BE EXTENDED.

HOW TO RESPOND TO THIS NOTICE:

I. Review the SMALL ENTITY status shown above.

If the SMALL ENTITY is shown as YES, verify your current SMALL ENTITY status:

- A. If the status is changed, pay twice the amount of the FEE DUE shown above and notify the Patent and Trademark Office of the change in status, or
- B. If the status is the same, pay the FEE DUE shown above.

If the SMALL ENTITY is shown as NO:

- A. Pay FEE DUE shown above, or
- B. File verified statement of Small Entity Status before, or with, payment of 1/2 the FEE DUE shown above.

II. Part B-Issue Fee Transmittal should be completed and returned to the Patent and Trademark Office (PTO) with your ISSUE FEE. Even if the ISSUE FEE has already been paid by charge to deposit account, Part B Issue Fee Transmittal should be completed and returned. If you are charging the ISSUE FEE to your deposit account, section "4b" of Part B-Issue Fee Transmittal should be completed and an extra copy of the form should be submitted.

III. All communications regarding this application must give application number and batch number. Please direct all communications prior to issuance to Box ISSUE FEE unless advised to the contrary.

IMPORTANT REMINDER: Utility patents issuing on applications filed on or after Dec. 12, 1980 may require payment of maintenance fees. It is patentee's responsibility to ensure timely payment of maintenance fees when due.

PATENT AND TRADEMARK OFFICE COPY

Notice of Allowability

Application No.

09/496,889

Examiner

Ehud Gartenberg

Applicant(s)

FALCE ET AL.

Art Unit

3746

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance and Issue Fee Due or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to papers filed through 12/14/2000.
2. ☒ The allowed claim(s) is/are 1-17.
3. ☒ The drawings filed on 02 February 2000 are acceptable as formal drawings.
4. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some* c) ☐ None of the:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).
- * Certified copies not received: _____.
5. ☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application. **THIS THREE-MONTH PERIOD IS NOT EXTENDABLE FOR SUBMITTING NEW FORMAL DRAWINGS, OR A SUBSTITUTE OATH OR DECLARATION.** This three-month period for complying with the REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL is extendable under 37 CFR 1.136(a).

6. ☐ Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient. A SUBSTITUTE OATH OR DECLARATION IS REQUIRED.
7. ☐ Applicant MUST submit NEW FORMAL DRAWINGS
(a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review(PTO-948) attached
1) ☐ hereto or 2) ☐ to Paper No. _____.
(b) ☐ including changes required by the proposed drawing correction filed _____, which has been approved by the examiner.
(c) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No. _____.

Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings. The drawings should be filed as a separate paper with a transmittal letter addressed to the Official Draftsperson.

8. ☐ Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Any reply to this letter should include, in the upper right hand corner, the APPLICATION NUMBER (SERIES CODE / SERIAL NUMBER). If applicant has received a Notice of Allowance and Issue Fee Due, the ISSUE BATCH NUMBER and DATE of the NOTICE OF ALLOWANCE should also be included.

Attachment(s)

- 1 ☒ Notice of References Cited (PTO-892)
3 ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
5 ☒ Information Disclosure Statements (PTO-1449), Paper No. 2
7 ☐ Examiner's Comment Regarding Requirement for Deposit of Biological Material

- 2 ☐ Notice of Informal Patent Application (PTO-152)
4 ☒ Interview Summary (PTO-413), Paper No. 6
6 ☒ Examiner's Amendment/Comment
8 ☐ Examiner's Statement of Reasons for Allowance
9 ☐ Other

EXAMINER'S AMENDMENT

1. An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it **MUST** be submitted no later than the payment of the issue fee.

Authorization for this examiner's amendment was given in a telephone interview with Terje Gudmestad on 6/4/2001.

The application has been amended as follows: Claim 10 has been amended as follows:

10. A method [for] of making an ion thruster having a hollow cathode assembly, the method including the preparation of the hollow cathode assembly by the steps of:

- AI
- preparing a filament;
 - forming the filament into a cylindrical shape;
 - providing an inner ceramic sleeve, an outer ceramic sleeve, and a mass of ceramic powder;
 - positioning the filament and the mass of ceramic powder between the inner ceramic sleeve and the outer ceramic sleeve;
 - providing a cathode; [and]
 - positioning the cathode within the interior of the inner ceramic sleeve;
 - attaching said cathode assembly to said ion thruster.

Allowable Subject Matter

2. Claims 1-17 are allowed.

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Jonker 2,508,266 Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ehud Gartenberg whose telephone number is 703/308-2634. The examiner can normally be reached on Monday-Thursday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Timothy S Thorpe can be reached on 703/308-0102. The fax phone numbers for the organization where this application or proceeding is assigned are 703/305-3588 for regular communications and 703/305-3588 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703/308-

0861.



EG

June 4, 2001



Timothy S. Thorpe
Supervisory Patent Examiner
Group 3700

